Complete Summary

GUIDELINE TITLE

Folic acid for the prevention of neural tube defects.

BIBLIOGRAPHIC SOURCE(S)

Folic acid for the prevention of neural tube defects. American Academy of Pediatrics. Committee on Genetics. Pediatrics 1999 Aug;104(2 Pt 1):325-7. [18 references]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Neural tube defects

GUIDELINE CATEGORY

Prevention

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Medical Genetics
Obstetrics and Gynecology
Pediatrics

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel

Nurses
Patients
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To endorse the United States Public Health Service (USPHS) and Centers for Disease Control and Prevention (CDC) recommendations concerning folic acid supplementation to prevent neural tube defects

TARGET POPULATION

Women capable of becoming pregnant, including those with no history of a previous neural tube defect-affected pregnancy and those who have had a previous neural tube defect-affected pregnancy

INTERVENTIONS AND PRACTICES CONSIDERED

1. Folic acid supplementation
2. Prenatal counseling and routine prenatal screening for neural tube defects
3. Public health programs aimed at folic-acid preventable neural tube defects

MAJOR OUTCOMES CONSIDERED

Incidence of neural tube defects

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

1. Prevention for Women with No History of a Previous Neural Tube Defect (NTD)-Affected Pregnancy. The American Academy of Pediatrics endorses the United States Public Health Service recommendation that all women of childbearing age who are capable of becoming pregnant should consume 400 micrograms (0.4 milligram) of folic acid daily. Because of the high rate of unplanned pregnancies in the United States, the Academy encourages efforts at devising a program of food fortification to provide all women a daily intake of 400 micrograms of folic acid. In the absence of optimal fortification, the Academy encourages women to consume 400 micrograms of folic acid daily in addition to eating a healthy diet. At present, the most convenient, inexpensive, and direct way to meet the recommended dosage is by taking a multivitamin containing 400 micrograms of folic acid, but efforts to increase the availability of folic acid-only supplements should be encouraged for women who prefer not to take multivitamins. Because the risk for neural tube defects is not totally eliminated by folic acid use, routine prenatal screening for neural tube defects is still advisable.

2. Prevention for Women Who Have Had a Previous Neural Tube Defect (NTD)-Affected Pregnancy. Women with a history of a previous pregnancy resulting in a fetus with a neural tube defect should be advised of the results of the Medical Research Council study. During times in which a pregnancy is not planned, these high-risk women should consume 400 micrograms (0.4 milligram) of folic acid per day. However, they should be offered treatment with 4000 micrograms of folic acid per day starting 1 month before the time they plan to become pregnant and throughout the first 3 months of pregnancy, unless contraindicated. Women should be advised not to attempt to achieve the 4000 micrograms daily dosage of folic acid by taking over-the-counter or prescription multivitamins containing folic acid because of the possibility of ingesting harmful levels of other vitamins, for example, Vitamin A. (Oakley & Erickson, 1995) It should be noted that 4000 micrograms of folic acid did not prevent all neural tube defects in the Medical Research Council study. Therefore, high-risk patients should be cautioned that folic acid supplementation does not preclude the need for counseling or consideration of prenatal testing for neural tube defects.
3. Prevention for Other High-Risk Persons. No intervention or observational studies address prevention for other high-risk persons. Women with a close relative (e.g., sibling, niece, or nephew) who has a neural tube defect (risk is approximately 0.3% to 1.0%), women with type 1 diabetes mellitus (risk is approximately 1%), women with seizure disorders being treated with valproic acid or carbamazepine (risk is approximately 1%), and women or their partners who have a neural tube defect (risk may be 2% to 3%) (Tolmie, 1997) and are planning a pregnancy should discuss with their physician the risk for an affected child and the advantages and disadvantages of increasing their daily periconceptional folic acid intake to 4000 micrograms.
4. Public Health Programs: Supplementation, Surveillance, and Food Fortification. The American Academy of Pediatrics recommends that the U.S. Department of Health and Human Services expeditiously devise and implement an educational program to prevent folic acid-preventable neural tube defects throughout the use of supplements, fortified foods, or a combination of both. The program should support surveillance of effectiveness and adverse outcomes to further refine the effective folate dose and mechanisms of actions. In light of the recent Institute of Medicine recommendation, the Academy also encourages additional efforts at devising a program of food fortification with folic acid to provide all women capable of becoming pregnant a daily intake of 400 micrograms of folic acid.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting each recommendation is not specifically stated. These recommendations are based on two other guidelines (Centers for Disease Control and Prevention. Use of folic acid for prevention of spina bifida and other neural tube defects: 1983-1991. MMWR Morbid Mortal Wkly Rep 1991;40:513-16; Centers for Disease Control and Prevention. Recommendations for the use of folic acid to reduce the number of cases of spina bifida and other neural tube defects. MMWR Morbid Mortal Wkly Rep 1992;41:1-8).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Neural tube defects are among the most common birth defects contributing to infant mortality and serious disability. Scientific studies have shown that more than half of neural tube defects can be prevented if women consume a folic-acid containing supplement before and during the early weeks of pregnancy in addition to the folate in their diet.

Subgroups Most Likely to Benefit:

In addition to women with a history of neural tube defect-affected pregnancy, other high-risk groups include women with a close relative (e.g., sibling, niece, or nephew) who has a neural tube defect (risk is approximately 0.3% to 1.0%), women with type 1 diabetes mellitus (risk is approximately 1%), women with seizure disorders being treated with valproic acid or carbamazepine (risk is approximately 1%), and women or their partners who have a neural tube defect (risk may be 2% to 3%).

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

This guideline was adapted from the following sources:

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- Centers for Disease Control and Prevention. Recommendations for the use of folic acid to reduce the number of cases of spina bifida and other neural tube defects. MMWR Morbid Mortal Wkly Rep 1992;41:1-8.

DATE RELEASED

1999 Aug

GUIDELINE DEVELOPER(S)

American Academy of Pediatrics - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Pediatrics

GUIDELINE COMMITTEE

Committee on Genetics

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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Section Liaison: Beth A. Pletcher, MD (Section on Genetics and Birth Defects)

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

AAP Policies are reviewed every 3 years by the authoring body, at which time a recommendation is made that the policy be retired, revised, or reaffirmed without change. Until the Board of Directors approves a revision or reaffirmation, or retires a statement, the current policy remains in effect.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Pediatrics (AAP) Policy Web site.

Print copies: Available from American Academy of Pediatrics, 141 Northwest Point Blvd., P.O. Box 927, Elk Grove Village, IL 60009-0927.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on September 17, 2001. The information was verified by the guideline developer as of December 5, 2001.

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